

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 09/801,659

Q63331

AMENDMENTS TO THE SPECIFICATION

Please replace the present title with the following rewritten title:

WIRELESS INTERNET ACCESS SYSTEM FOR USE WITH A FLYING OBJECT

Please delete the present Abstract of the Disclosure and replace it with the following new Abstract of the Disclosure.

An object of the present invention is to provide a system that avoids degradation of the reception quality, when the timing of antenna control overlaps with the timing of user data reception. When the timing of an antenna beacon signal reception has fallen upon the reception of user data, an antenna control disable signal is generated according to the detection of a start delimiter. The control of the antenna is thereby prohibited. The occurrence of errors in the reception data is thereby avoided. The antenna beacon reception signal is held in accumulation means. At the time of the end of the reception data, the control of the antenna is started. Thereby, the degradation in the quality of the transmission data is avoided ~~as~~by the entire system even without adversely affecting the control of the antenna.

Please replace the paragraph beginning on page 1, line 11 with the following paragraph:

In a next-generation mobile communication such as IMT2000 (international mobile telecommunications 2000), in a state where the movement of a mobile object is to an extent of a walking, a bearer service of 384 kbps (kilo-bit/sec) is supported while in a state where it is fixed ~~the one~~ a bearer service of 2 Mbps (mega-bit/sec) is supported.

Please replace the paragraph beginning on page 4, line 6 with the following paragraph:

Fig. 8 is a block diagram of a wireless router ~~300-30~~ of the mobile object 10. Referring to Fig. 8, the wireless router 30 is equipped with an antenna 500, a wireless modem 600, an antenna beacon signal generator 700, and a router 850 connected to the Ethernet within the mobile object 10. An antenna beacon signal outputted from the antenna beacon signal generator 700 is transmitted from the antenna 500.

Please replace the paragraph beginning on page 6, line 9 with the following paragraph:

The outline of the reception operation of the wireless modem ~~400-460~~ in the wireless earth station 50 is explained with reference to Fig. 9. The frequency of the signal from the

antenna 100 as shown in Fig. 7 is converted to a prescribed intermediate frequency (IF) by means of the frequency down-converter 401. Then, the output from the down converter is converted to a baseband signal by the quadrature demodulator 403.

Please replace the paragraph beginning on page 7, line 4 with the following paragraph:

Next, the tap coefficient of the Viterbi equalizer 407 that has been determined through the estimation of the transmission channel is made fixed (frozen). Thereafter, the start delimiter detection unit ~~409~~419 starts detecting the start delimiter 425 embedded at the end of the preamble signal 421.

Please replace the paragraph beginning on page 11, line 17 with the following paragraph:

An embodiment of the present invention will hereafter be explained. The present invention is directed to an exclusive processing of the timings of antenna control and equalizer control, when they overlap with each other. The “exclusive processing” is to cause preference to be taken of the equalizer control over the antenna control, i.e. performing a control of postponing the antenna control during the reception of the user data. More specifically, in a preferred embodiment thereof, the system of the present invention is equipped, on the wireless modem side of the earth station side, with the following means. That is, the system of the present invention

includes: disable signal generating means for generating a disable signal for antenna control at the start delimiter on the earth station side; and antenna control start means for starting the antenna control on the basis of the antenna control disable signal and antenna control enable signal. Concretely, when the antenna control disable signal is active, the antenna control start means starts ~~stores~~ storing the antenna beacon signal, when the antenna control enable signal becomes active (on), and it stops the antenna control. Further, it starts the antenna control, when the antenna control disable signal becomes inactive (off).

Please replace the paragraph beginning on page 13, line 13 with the following paragraph:

~~In~~ As shown in Figure 4, in the embodiment of the present invention, the wireless modem is equipped with a frequency down-converter (401), an quadrature demodulator (403) that inputs an output of the frequency down-converter (401), an A/D converter (405) that converts an quadrature demodulation output to a digital signal and outputs this digital signal, an equalizer (407), a start delimiter detection unit (409), a wireless frame assembly/disassembly unit (410), a transmission encoder (408), a D/A converter (406) that converts an output of the transmission encoder to an analog signal and outputs this analog signal, an quadrature modulator (404) that performs quadrature modulation of an output of the D/A converter, and a frequency up-converter (402) that inputs an output of the quadrature modulator (404). When the start delimiter detection

unit (409) detects a start delimiter of the preamble portion of the frame, it outputs the antenna control disable signal (450) to the antenna control unit (200).

Please replace the paragraph beginning on page 15, line 11 with the following paragraph:

The arbitration unit 230 inputs the antenna control enable signal ~~301~~350 and the antenna control disable signal 450 and thereby outputs to the antenna beacon signal accumulation unit 220 a signal 240 that controls write and read of the antenna beacon signal.

Please replace the paragraph beginning on page 18, line 23 with the following paragraph:

Concretely, even when the antenna control enable signal 350 is active (ON), if the antenna control disable signal 450 is also active, antenna direction control by the antenna direction optimum control unit 210 is prohibited.